

**Apparatus and Methods for Entropy-Encoding or Entropy-  
Decoding using an Initialization of Context Variables**

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Abstract

An entropy encoding/decoding scheme uses an arithmetic encoder/decoder together with a context modeler for performing  
10 a context-based adaptive binary arithmetic coding, which is especially suited for video compression applications. The context modeler includes an initializer for initializing the context modeler by determining and providing initialization probability information to the arithmetic encoder, the initialization probability information to be used by the arithmetic  
15 encoder for processing a start symbol of a symbol sequence. The initializer is operative to determine the initialization probability information based on an estimation of the symbol statistics relating to the start symbol such that an initialization probability distribution is different from  
20 an equi-probable distribution for all symbols of the symbol set. By means of the initialization, the context-based adaptive binary arithmetic coding/decoding scheme is optimally adjusted before processing a start symbol of the symbol sequence so that no bit rate compression losses because of a  
25 delayed context-based adaptation are introduced.